

The University of Chicago

A STUDY OF EIGHTEENTH
CENTURY AGRICULTURE IN THE
COUNTY OF NORFOLK, ENGLAND

A PART OF A DISSERTATION SUBMITTED TO
THE FACULTY OF THE DIVISION OF THE
SOCIAL SCIENCES IN CANDIDACY FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF HISTORY

1932

By
NAOMI RICHES

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I. Introduction

The century which saw the momentous changes in methods of manufacturing commonly described as the Industrial Revolution also witnessed great changes in agriculture. The new agriculture was often called by contemporaries the "Norfolk system". Moreover when we read that in 1794 Norfolk was exporting more corn than all the rest of England combined, nine-tenths of which was actually produced in the country, it arouses curiosity as to the farming practiced there.¹ The object of this study is to present the primary material on Norfolk farming in such a way as to show what the Norfolk system actually was, as well as to make clear the relation of the system to the progress of agriculture in England.

Though the importance of agriculture in the economic life of England is obvious, the secondary literature of the subject available for the present day student is not as extensive as might be expected. There is an excellent brief history of agriculture in Europe and America by Professor N. S. B. Gras² which has valuable material on England, one chapter of which deals specifically with the eighteenth century. The last two volumes of the great work of J. E. T. Rogers, A History of Agriculture

¹Annals of Agriculture, Edited by Arthur Young, 46 Volumes (Bury St. Edmunds and London, 1784-1809), vol. 22, p. 35, Nathaniel Kent, "Exported Produce of Norfolk."

²A History of Agriculture (New York, 1925).

and Prices, deal with the eighteenth century. Lord Ernle¹ has written the history of English agriculture in a single volume devoting six chapters to a description of the situation during this century. W. H. R. Curtler has a briefer history.² There are many excellent books which deal with agriculture indirectly. Mrs. Seeborn's Evolution of the English Farm has a chapter on eighteenth century implements and farm animals. Sir William Ashley has treated the subject of grain production during this period in the first chapter of his The Bread of our Forefathers. Professor W. Hasbach³ and J. L. and Barbara Hammond,⁴ in writing of the agricultural laborer have added to our knowledge of the subject, as has also Ivy Finchbeck⁵ in her book on women workers. Sydney and Beatrice Webb's⁶ studies in local government throw light on conditions under which agriculture was carried on. Many writers have worked on the difficult problem of land tenure and the enclosure movement. Among these may be mentioned Professors E. C. K. Goner,⁷ Gilbert Slater,⁸ A. H. Johnson,⁹ W. H. R. Curtler,¹⁰ H. L. Gray,¹¹ and, for the sixteenth century, Professor R. H. Tawney.¹²

¹Lord Ernle (R. E. Prothero), English Farming Past and Present (last ed., London, 1927).

²Short History of English Agriculture (Oxford, 1909; last ed., 1920).

³A History of the English Agricultural Laborer (London, 1908).

⁴The Village Laborer 1760 to 1832 (London, 1920).

⁵Women Workers and the Industrial Revolution 1750-1850 (London, 1930).

⁶Especially S. and B. Webb, The King's Highway, (London, 1920).

⁷Common Land and Inclosure (London, 1912).

⁸The English Peasantry and the Inclosure of Common Fields (London, 1907).

⁹The Disappearance of the Small Landowner (London, 1909).

¹⁰The Enclosure and Redistribution of our Land (London, 1922).

¹¹English Field System (Cambridge, 1915).

¹²The Agrarian Problem in the Sixteenth Century (London, 1913).

The phrase "Norfolk agriculture" occurs frequently in the sections of these accounts devoted to the eighteenth century; yet, since most of these studies cover England as a whole through many centuries, it is not surprising that the subject of agriculture in that agriculturally famous county is dealt with in a few pages even in the volume by Lord Ernle. But, aside from the necessary brevity of the treatment accorded Norfolk agriculture in the above mentioned works, there has been a failure to disentangle the ideas of Jethro Tull from those of the "Norfolk school". All of the practices advocated by Tull, Townshend, Coke of Holkham, Arthur Young and others, are likely to be grouped together under the title of the "new husbandry".¹ Jethro Tull applied this term to his own horse-hoeing husbandry and, in his famous book of that name, voiced his disapproval of fertilizers and crop rotation.² As will be shown later, the very cornerstone of the Norfolk system was crop rotation; and marling (a form of fertilizer) was one of its most characteristic practices. Jethro Tull described turnips as having lately "come into fashion",³ but showed no understanding of their significance as a step toward convertible husbandry. Since they were the fashion he was interested in drilling and cultivating them, but his enthusiasm was more for the drill than for the turnips. On the other hand, Arthur Young, the great popularizer of the "Norfolk system", was prejudiced against agricultural machinery and insisted on hand-hoed turnips right down to the nineteenth century. But he pointed out again and

¹Mr. T. H. Marshall has an article in the Economic History Review vol. 2, No. 1 (January, 1929), "Jethro Tull and the New Husbandry," in which he points out Tull's limitations.

²1829 ed. William Cobbett: Horse-Hoeing Husbandry pp. 69 and 358. The first edition was 1733.

³Horse-Hoeing Husbandry, p. 79.

again, as did the two ablest writers on Norfolk agriculture, William Marshall and Nathaniel Kent, that the success of the Norfolk system depended on the successful culture of the turnip.¹ Jethro Tull wrote that clover was "foul feed for horses and injurious to cattle."² The Norfolk farmers regarded it as the most important of all the "artificial grasses."³

That the "Norfolk school" was in opposition to most of the ideas of Jethro Tull will be more fully shown later in this study. Lord Ernle, who gives the fullest treatment of this period, makes the usual statement that Jethro Tull's principles were put into practice by men like Lord Townshend who drilled his crops. But Lord Ernle then describes how Townshend marled his lands, practised the four course crop rotation, and planted turnips with no indication that in all this, except the drilling of the crops, he was following a system opposed to that of Jethro Tull.⁴ Professor Hasbach continues the confusion by writing, "Jethro Tull had made it [Norfolk] the birthplace of the system of rotation of crops."⁵

To find any extensive description of the agricultural system in Norfolk, it is necessary to go back to the work of R. N. Bacon, who wrote a prize essay in the competition sponsored by the Royal Agricultural Society in 1844. This little volume entitled Report on the Agriculture of Norfolk is now rare. Back of it are the works of the eighteenth century agricultural writers, The student of the subject is fortunate in that three of the greatest of these, William Marshall, Nathaniel Kent, and Arthur

¹Discussed more fully on p. 94 (of the complete dissertation on file only in the University of Chicago Libraries).

²Horse-Hoeing Husbandry, p. 286.

³Discussed more fully on p. 99 (of the complete dissertation).

⁴Ernle, p. 174.

⁵English Agricultural Laborer, p. 96.

Young, wrote on Norfolk.

William Marshall's The Rural Economy of Norfolk appeared in 1783. He was agent for Sir Harbord Harbord's estate at Gunton, Norfolk, from 1780 to 1782, and was an accurate observer, more capable of unprejudiced analysis than Arthur Young, and is ranked by Professor Slater as the ablest writer on agriculture of his time.¹ Nathaniel Kent's Agricultural Survey of Norfolk was published in 1794 as part of a county by county survey undertaken by the Board of Agriculture toward the close of the eighteenth century. These surveys vary in value according to the training and experience of the "surveyor." Arthur Young sarcastically wrote that some of the men employed for the work did not know the business end of a plow, but this observation did not apply to Kent who had studied agriculture in Flanders, was a well-known land valuer and estate agent and, at one time, was farm bailiff at Windsor for George III.

Finally, there is the General View of the Agriculture of The County of Norfolk in 1804 by Arthur Young himself. This also was written as part of the surveys conducted by the Board of Agriculture but was a supplement to Kent's work, rather than a criticism of it, as Young carefully explained in his preface. Young wrote surveys of five other counties for the Board and travelled through England, Ireland, and France for the purpose of observing agriculture. His published works range over the period from 1771 to 1819. He was editor of the Annals of Agriculture, 1784-1806, which had a place in the intellectual life of the whole English reading world, and was Secretary to the Board of Agriculture from the time of its creation in 1793 until his death

¹Slater, above cited, pp. 74 and 80.

in 1820. His easy, forceful, journalistic style made him the great popularizer of the new agriculture, but he was somewhat lacking in accuracy.

None of the historians of agriculture appear to have used the little book of R. N. Bacon, and although the county surveys have been frequently cited by Lord Ernle and others, none of these writers have been interested in the Norfolk system itself. Moreover in order to see the slow and gradual growth of the famous system as it was evolved by patient experiment on the part of numerous unknown farmers, it is necessary to go through the early pamphlet literature. Otherwise it is possible to fall into the error of Mrs. A. M. W. Stirling,¹ who gives the impression that Norfolk agriculture had a startling, almost miraculous development toward the end of the eighteenth century, springing full blown from the head of Thomas William Coke.

In addition to the forty-six volumes of the Annals of Agriculture and the writings of the four men above mentioned, the data on which this study is based are drawn from the pamphlet writers on agriculture, including sixteenth century Thomas Tusser and K. Platt, and seventeenth century Gervase Markham, Walter Blith, Samuel Hartlib, Richard Weston, John Worlidge, and John Houghton. Among the eighteenth century agricultural writers are Timothy Nourse, Roger North, John Laurence, Jethro Tull, the various contributors to the Georgical Essays edited by Dr. Hunter, Henry David, Thomas Stone, Francis Blaikie, land steward for the great Norfolk agriculturist Coke of Holkham, James Donaldson; and in the early nineteenth century, Dr. Rigby.

Interesting manuscript material was also found in the

Coke of Norfolk and his Friends (London 1908; 2nd ed. 1912) 2 vols.

library and estate office of the Earl of Leicester, the grandson of the famous Coke. The University of Chicago has a Norfolk Collection of manuscripts from which data on leases were obtained. The Rothamsted Experimental Station at Harpenden, England, has a collection of late seventeenth century Norfolk agricultural manuscripts which were examined. The Communications to the Board of Agriculture and their Pamphlets, as well as Reports of Parliamentary Committees, were also found valuable.

In addition to the above, which relate directly to agriculture, bits of information were gleaned from the Gentleman's Magazine, Ipswich Journal, Norfolk Chronicle, and Norwich Mercury. The Diary of a Country Parson 1758-1802 (Woodforde of Norfolk) was a source which gave much local color. Travellers' accounts of Norfolk were found valuable, such as those of M. Misson, J. Macky, Daniel Defoe, the Earl of Oxford, William Gilpin, Rochefoucauld, Peter Kalm, F. A. Wenderborn, and William Cobbett, to mention them in the order in which they travelled in the county. Among seventeenth and eighteenth century geographers and statisticians who took some notice of Norfolk, there are William Camden, Richard Blome, S. Dunstar, N. Salmon, John Chamberlayne, Richard Gough, William Wales, G. Chalmers, and F.M. Eden. The last named writer and David Davies wrote also on the state of the poor from which some information on the condition of the agricultural laborer in Norfolk was obtained. The use of all these various sources gives a much more complete and truthful picture of the agriculture of the county than can be gained from the late eighteenth century surveys and the Annals of Agriculture.

For the enclosure movement, documents in the Public Record Office, together with Enclosure Awards and Proceedings of Enclosure Commissioners at the Shire Hall, Muniment Room, and the Public

Library at Norwich, were used. Francis Blomefield's eleven volume Topographical History of the County of Norfolk proved unexpectedly valuable for enclosure data. Strangely enough this source has not been utilized by students of enclosures, because, perhaps, of the misleading nature of the title.

Before attempting to describe the characteristics of the "Norfolk system" of the eighteenth century, it is necessary to see as clearly as possible the conditions out of which it developed. By the sixteenth century feudalism was practically at an end and landowners were receiving rent instead of labor services. Moreover the spirit of commercial competition, which so marked the Tudor period, had affected agriculture. According to Lord Ernle, it influenced it in three ways: it caused a desire for individual ownership of farms large enough to repay an expenditure of capital; it caused a desire to produce goods which would constitute a so-called "money crop", e. g., sheep and wool; and it broke down the village or manorial self-sufficing organization.¹

One outstanding feature of these agricultural changes was enclosure. This was no new thing, having been recognized in the Statute of Merton in 1236. It is impossible to say just what land or even how much land was enclosed during the fifteenth and sixteenth centuries, but it is certain that the enclosure which took place during these centuries included not only the waste land as provided by the Statute of Merton and the "ancient enclosures" by common consent (which grew out of the prevailing common-field system to provide "closes" for the protection of cattle and orchards) but was rather what is likely to be thought of as true enclosure, that is, enclosure of agricultural land both arable and pasture,

¹Ernle, op. cit. pp. 55 and 58.

the object being a change in use, or, perhaps, different methods of use.¹ The change in use during the fifteenth century was generally from arable to sheep pasture, and was extensive enough to call forth two Acts of Parliament in 1489, to prevent the decline of population and reduction of the grain supply.² Nevertheless the enclosing for pasture continued steadily, but perhaps not as extensively as the pamphlet literature might lead one to believe. From 1455 to 1637 the total acreage enclosed and converted to pasture has been estimated at only about 750,000 acres,³ Norfolk was affected by this movement; to what extent will be discussed later.

Another development influencing agriculture was the emergence of a metropolitan economy, perhaps the result, or at least the physical expression, of the spirit of commercial competition. By the phrase "metropolitan economy" is meant that a concentrated population of some area is engaged largely in manufacturing for a wide market, and is dependent for its food supply on the hinterland. According to Professor Gras, London was in the process of becoming a metropolis as early as 1550. In his opinion, this economic development, furnishing as it did a market for surplus produce, affected the farmer more than any economic change since the growth of towns.⁴ The farmer thus had the opportunity to profit by the necessities of the city dwellers, and it is significant that the first statute for the maintenance of roads came at the date 1555,⁵ and that in 1571 a law was passed permitting

¹Gonner, op. cit. pp. 109 and 114.

²Ernle, p. 60.

³Ibid. p. 66, citing the estimate of A. H. Johnson in The Disappearance of the Small Landowner, p. 48. The amount of enclosure is discussed more fully on page 52 of this study.

⁴N. F. B. Gras, Evolution of the English Corn Market (Cambridge 1926 ed.) p. 14.

⁵2 and 3 Philip and Mary c-8. Webb, op. cit. p. 14.

grain to be taken from one district to another for sale.¹ This new economic organization made grain and livestock as well as wool "money crops".

A new interest in agriculture is apparent in the fact that the sixteenth century produced the first agricultural literature after the thirteenth century work of Walter of Henley. John Fitzherbert wrote his Book of Husbandry in 1523 and Thomas Tusser, an East Anglian farmer, wrote Five Hundred Pointes of Good Husbandry in 1573. Although both of these men urged enclosure, even on enclosed land, the old medieval three course rotation had not yet been superseded. In fact, Lord Ernle believes that the books of Fitzherbert and Tusser show that not only was there no advance in sixteenth century agricultural ideas over those of the thirteenth century, but that the actual practice had deteriorated. Agricultural tools showed no change. No new field crops had been introduced, with the exception of hops.²

The stage was thus set for an agricultural revolution because the opportunity for profit from surplus agricultural produce existed and was realized by many. Yet the methods of producing a surplus were poor. In grain production, the farmer's efforts were hampered by the lack of means of restoring soil fertility. The use of marl and other expensive fertilizers was hindered by the open field system. The fact that few livestock were kept through the winter limited the use of animal manure, and the knowledge of scientific crop rotation to restore soil fertility was still in the future. In livestock production farmers were thwarted by the lack of winter feed, which could be remedied only by the introduction of plants as yet unknown in England, at least

¹Ernle, p. 256.

²Ernle, p. 91.

as field crops.

By the seventeenth century enclosure for arable purposes was more frequent,¹ thus making more and more land available for experiment. However, Lord Ernle points out that before the dissolution of the monasteries, the great Orders had been the leaders in experimental and scientific farming and that an important need of seventeenth century agriculture was a new leadership, men who had the education and capital to test the new methods,² advocated in numerous pamphlets which began to appear describing enlightened European practices. As early as 1577, Barnaby Googe wrote his Four Books of Husbandry, chiefly a translation of M. Conradus Heresbachius' work Rei Rusticae libri quatuor (Cologne 1570), in which he mentioned that rape, a turnip-like vegetable, was cultivated in Cleves as food for sheep, that turnips were used in the Low Countries for livestock, and that trefoil or Burgundian grass (clover) could be used for the same purpose.³ In 1591, Leonard Mascall wrote his Booke of Cattell. In the seventeenth century numerous agricultural pamphlets appeared. Gervase Markham published his Farewell to Husbandrie in 1638; Walter Blith, his English Improver in 1649; Sir Richard Weston the pamphlet on Husbandrie in Brabant and Flanders, often attributed to Samuel Hartlib, in 1650; and Samuel Hartlib put forth numerous Legacies, the first of which appeared in 1651. An anonymous pamphlet on the new "artificial grass St. Foine" appeared in 1671, and another on "wool and cattel" in 1677. John Worledge in his Systema Agriculturae, 1669, summarized much of the material in the earlier pamphlets, while John Houghton in the last decade of the seventeenth

¹Ernle, p. 86.

²Ibid., pp. 89 and 139.

³Ibid., pp. 99 and 100.

century anticipated Arthur Young's famous Annals of Agriculture by publishing a Collection of Letters for the Improvement of Husbandry and Trade.¹

None of the ideas of these writers were carried out on anything like an extensive scale until the eighteenth century. Although suggestions were also made for the improvement of agricultural implements and patents were taken out for "instruments for mechanical sowing" by Ramsey (1634) and Gabriel Plattes (1639),² no such "instrument" was actually used until the eighteenth century. The drainage of the fens, notably Hatfield Chase and the great Bedford Level, was accomplished during this century but field drainage for crops was not generally practised until the nineteenth century. A patent for plows was issued in 1623,³ but even in the latter part of the eighteenth century, Arthur Young found it necessary to write against the use of heavy clumsy swing (wheelless) plows drawn by twelve oxen. Undoubtedly the spread of agricultural improvements was retarded by the feeling of insecurity occasioned by the Civil War and the shifting of ownership of great estates. Only six patents for agricultural machinery were taken out between 1640 and 1760.⁴

The influence of the landed gentry in government after 1660 enabled them to pass legislation favorable to agriculture. The corn laws illustrate this point, although Lord Ernle believes that if all the corn legislation is treated as a whole, with restrictions on exports as well as imports taken into account, it will be found that until 1815 the interests of consumers as well

¹All the pamphlets referred to are cited fully in the bibliography. (See complete thesis, University of Chicago Libraries.)

²Ernle, p. 104.

³Ibid.

⁴Curtler, Agriculture, p. 113, citing Royal Agricultural Society of England Journal (1892), p. 19.

as producers were considered.¹ In so far as the corn laws tended to stabilize prices they were a benefit to both groups, but Lord Ernle believes that the weather probably had more to do with the price of corn than any of the corn laws before the nineteenth century.² His defense of these laws suggests the present day view that the welfare of the poorer classes is best advanced by legislation assuring the prosperity of the upper classes.

A brief summary of the corn laws during the seventeenth and eighteenth centuries will show the trend of legislation on this subject. By an Act of 1604, corn could be exported only when the price was not above 26s. 8d. per quarter (8 bushels) for wheat,³ and then was subject to a poundage duty of 2s. per quarter. In 1624 this maximum price was raised to 32s., and in 1656, to 40s. and the poundage duty reduced to 1s. per quarter. In 1663 the maximum price when export was permitted was raised to 48s. per quarter, but when wheat was below 48s. a duty of 5s. 4d. per quarter was placed on imported corn. Professor Gras points out that thus, in 1663, for the first time in English history the farmer was protected by high import duties.⁴ Before that date the actual operation of the laws had benefited the consumer for the rise in the price of wheat had made it, for the most part, impossible to export grain; so that, perhaps contrary to the intention of the laws, the farmers had had their export market restricted.⁵

But in 1670, by an Act, 22, Car. II, c-13, all native per-

¹Ernle, p. 255.

²Ibid., p. 253.

³All figures here given relate to wheat. The Corn Laws, of course, usually applied to all grains with a scale of prices for each kind.

⁴Evolution of the English Corn Market, p. 149.

⁵D.G. Barnes, A History of the English Corn Laws, (London, 1930), pp. 5 and 6.

sons might export corn regardless of price, subject to a tax of one shilling per quarter.¹ This Act further assured the English market to the home producer when prices were below 53s. by a heavy tax of 16s. per quarter on foreign wheat. When prices were between 53 and 80 shillings per quarter, the tax on imported corn dropped to 8s. and it was only when corn was above 80s. that it could be brought in virtually duty free. In 1673, export was further encouraged by the granting of a bounty of 5s. per quarter on exported wheat whenever its price dropped to 40s. Although this law remained in force only five years, it began the policy which is often attributed to the Act of 1689, the more famous Bounty Act, calling for a bounty when the price dropped below 48s. per quarter.² From 1697 to 1765, the government paid £6,058,962 6s. 9d. in bounties.³ Clearly the laws after 1660 tended to favor the producer.⁴

After 1689 there seems to have been little attention paid the corn laws for almost a hundred years. England was normally a corn exporting nation⁵ and, therefore, the laws which kept corn out of England could hardly be regarded as working any hardship. But about 1750 the Corn Laws were again under fire. Professor Barnes believes that this agitation was not owing to suffering caused by the high price of grain, but rather owing to the fact that the increased export of grain on which a bounty was to be paid was putting a serious strain on the treasury.⁶ He adds,

¹Gras, Corn Market, p. 144.

²Ibid., p. 143. To the list of writers who have overlooked the Act of 1673, Professor Gras might have added Lord Ernle.

³Ernle, p. 452.

⁴Barnes, p. 8.

⁵Barnes, p. 12.

⁶Ibid., p. 23.

"The rapid decline in exports after 1752 relieved the government of an embarrassing problem."¹ After 1765, grain export became negligible, bounty or no bounty, due to the increased demands of the home market.² But about 1756, the price of grain rose sharply, food riots resulted, and prohibition of export was accomplished by special Acts of Parliament as temporary emergency measures, or by Orders in Council when Parliament was not in session. In 1773, 13 Geo. III was passed, prohibiting the export of wheat when the price was above 44s.; allowing its importation with a nominal duty only when the price was 48s. or above; and granting a bounty of 5s. when the price fell below 44s. per quarter. The avowed object of this Act was to stabilize the price of wheat somewhere between forty-five to fifty shillings a quarter, but the Act did not accomplish this result. The rapid increase in population and the change in food habits of the lower classes, involving the use of white bread, partly accounts for this failure. The landed gentry were dissatisfied because they felt that the provisions of the Act of 1773 prevented them from making the fortunes from their estates to which they felt themselves entitled. So the Act of 1791 made further changes in the direction of protection. The export of wheat was prohibited unless it was below 46s. a quarter; it could be imported when the price was under 50s. only by the payment of a very heavy duty, 24s. 3d. per quarter. If the price was between 50s. and 54s., the duty dropped to 2s. 6d. and only when above 54s. per quarter was it subject to the nominal duty of 6d. The bounty provisions were the same as the law of 1773. Professor Barnes remarks that this Act of 1791

¹Barnes, p. 24.

²Ibid., p. 31.

marks the first real clash between the landed gentry and the growing commercial and manufacturing interests.¹

The increase in population from 5,475,000 in 1715,² to 8,606,400 in 1801 (official census) was an important factor in the favorable setting for the landlords, particularly when it was accompanied by a definite movement toward urbanization.³ In other words, relatively fewer people were engaged in feeding themselves. Moreover, in 1750, England exported 1,667,140 quarters of grain. In 1800, she imported 3,938,829 quarters.⁴ So the great English landlords had no fear that a market would be lacking for all the grain they could produce. Indeed, they had things very well arranged to suit themselves. The enclosure practices, the Statute of Frauds, the poor laws, the Act of Settlement, even road legislation, substantiate this statement. With this setting and with the almost unlimited opportunities for gain opening up in the eighteenth century, it is reasonable to expect drastic changes in agriculture, since the desire for profit furnished the motive; increased trade and intercourse with Europe brought in new ideas, as will be shown later; and Parliament was well disposed toward agricultural interests.

Before turning attention to Norfolk in particular, it might be well to indicate in a general way what the eighteenth century agricultural revolution was. It was the application of new methods to farming for the purpose of making money. The spirit of commercial competition had been influencing agriculture

¹Barnes, p. 59.

²*Ibid.*, p. 30, citing "An Abstract of the Population and Parish Returns for 1821."

³For the growth in population by counties, see Appendix I of this study.

⁴Barnes, p. 80, citing James Anderson, "A Calm Investigation of the Circumstances that have led to the present scarcity of grain in Britain." p. 30.

from the time of the Tudors. New ideas had been slowly penetrating from the Continent, and now leadership was furnished by the landed gentry. A detailed discussion of methods will follow, but a few generalizations at this point may serve to make the subject clearer.

In the first place, the agricultural revolution had little to do with machinery and thus is in sharp contrast to the industrial revolution. The increase sought in productivity was achieved by a more rapid abandonment of the old open field strip system than had characterized the earlier centuries and the gradual substitution of elaborate crop rotation in which land was not allowed to lie idle to regain its fertility. Such crops as turnips, lucerne (alfalfa), and clover, the latter especially valuable, were used to restore soil fertility. Productivity was also increased by a more general use of marl, which individual ownership made more practical, and animal manures, made more available by the additional cattle supported on the turnips, lucerne and clover. The introduction of the so called "artificial grasses" also enabled larger numbers of cattle to be kept. Indeed, to some observers early in the century it seemed that meat rather than grain production was characteristic of the new agriculture, but the real goal was a convertible husbandry in which livestock helped to increase grain production by furnishing more manure, and by consuming the crops necessary in the new scheme of rotation. These changes were fundamental, and no mere invention of "drill rollers" or mowing machines, or other ways of getting seed into the ground and crops into the barns could have increased production as crop rotation did, which increased the productivity of the soil itself.

The improvement of livestock was incidental to the great

discovery that animal and grain production could be successfully combined by using the new crops, clover, turnips and the artificial grasses as the connecting links. The work of Robert Bakewell and his followers who did so much to improve livestock by inbreeding is important, but not fundamental, to the revolution. The same may be said of Jethro Tull, whose great contribution was to demonstrate that crops, by means of his drill, should and could be planted in rows, making frequent cultivation, horsehoeing, possible. In his opinion, with perfect cultivation there was no need for fallow or rotation. He insisted that it was possible to repeat the same crop on the same land indefinitely. He actually grew in the same fields for thirteen successive years without fallow or fertilizers, which he disapproved of as weed producers, heavier wheat crops from one third as much seed as his neighbors used.¹ But of course this would lead eventually to soil exhaustion. Tull's influence was all against crop rotation, and he played right into the hands of short-sighted farmers, who, after 1760, owing to the high price of wheat, were eager to increase this crop at the expense of the less profitable turnips and clover required by crop rotation. Arthur Young, William Marshall, and Nathaniel Kent all exerted themselves against this tendency of the new husbandry to deteriorate into a mere frenzied effort to grow more wheat.

¹Ernle, p. 172.

II.

Reasons for Priority of Norfolk in the Eighteenth Century

By the seventeenth century there were two distinct areas in England which were notable for successful agriculture. One was the district just north and west of London, composed of Hertfordshire, Bedfordshire, Buckinghamshire, Oxfordshire, Berkshire and Northamptonshire; the other was the southeast coast counties, Norfolk, Suffolk, Essex, Kent, and, just inland Surrey.¹ Several of these counties developed rather specialized products, Essex being noted for its veal and quinces, Suffolk for dairy produce and poultry, Kent for apples, cherries and hops.² To this list should be added Leicestershire, which in the opinion of Lord Ernle might have become the leader in the "new agriculture" except for the fact that pasture farming took precedence there over arable, and that no great leaders in experimental farming happened to reside within the county.

Among these several progressive counties Norfolk probably gained its preeminence in the practice of the new agriculture for five reasons. First, its early field system; second, the influence of continental practices early and continuously felt in the county; third, its wide market; fourth, the leadership of certain prominent agriculturists; and fifth, its adaptibility to wheat cultivation at just the time when that crop was of the greatest interest to agriculturists.

¹Rogers, History of Agriculture, vol. 5, p. 44.

²Gras, Corn Market, p. 126; Ernle, p. 136.

It is difficult to form a clear picture of just what was the early field system of Norfolk. It may be best to begin with the Kentish field system as described by Professor Gray,¹ for the East Anglian (Norfolk and Suffolk) system closely resembled it. The unit of villein tenure in Kent at the time of the Norman Conquest was the iugum, a compact rectangular piece of land varying from about twenty five to sixty or more acres. Owing to the intrusion of new groups into the district, e.g. the Danes and the Normans, the old ownership arrangements were disturbed and while the iugum still remained as a tax unit, documents show that by the thirteenth century tenants held land in various iuga, although not usually widely separated.² Now the unit of villein tenure in East Anglia at the time of the Conquest was the erlung, which Professor Gray says can best be imagined as a Kentish iugum in the process of disintegration caused by the intrusion of new settlers.³ In other words in East Anglia tenants did not hold land scattered in three fields, but held land in various erlung. This land was often found in sections of fairly close proximity.⁴ Moreover, East Anglia had a peculiarity in its pasture arrangements for cattle and sheep. In the midlands, under a three field system, all the cattle belonging to the landholders had the right to graze over the commons and the fallow field. But in East Anglia, each manor had its own flock and Professor Gray, generalizing from several specific manors, concluded that "any particular parcel of open-field arable was subject to a certain flock, perhaps not to the proprietor of the land in question,"⁵ or, to say

¹English Field Systems, Chap. 7, "The Kentish System."

²Ibid., pp. 286 and 295.

³Ibid., p. 351.

⁴Ibid., pp. 339, 340, and 341.

⁵Gray, p. 325.

the same thing in another way, each flock of sheep had its own fold-course instead of ranging with all the flocks over all the common waste and fallow lands of the village. The fold courses were fixed by custom and did not coincide with the holdings of the owners of the flock. Professor Gray concludes that this circumstance along with the holding of land in fairly compact units argues against the existence of the three field system in East Anglia.

The early field arrangements of Kent and East Anglia had two important effects on agricultural practice. The absence of the three field system led to elaborate variable crop rotation, and the compactness of the holdings made for the existence of early enclosure.¹ Kent was so early enclosed that some eighteenth century observers doubted whether the county ever had been in open fields.² The result was that here, through the centuries, agriculture had advanced more rapidly than anywhere else in England.³ The Kent hop fields and cherry orchards of the eighteenth century were probably the products of this early field arrangement as well as of soil and climate.

Since Norfolk had this peculiar field system we should expect to find there early enclosures, which will be discussed later, and a crop rotation scheme not like the typical three field system of the midlands. Professor Slater has pointed out that as far back as records go, there is something distinctive about Norfolk agricultural practices. Instead of the traditional three fields, we often find references to two types of fields there, the one called every year lands, whole year lands or in-

¹Gray, *op. cit.* p. 303.

²*Ibid.*, p. 272.

³*Ibid.*, p. 303.

fields; and the other ollands.¹ The former were, according to Professor Slater, uninclosed intermixed arable lands not subject to rights of common, and made to bear a crop every year, which could only be done by fertilizing instead of fallowing. Ollands were outlying lands not heavily fertilized. Although Norfolk early practiced a three crop rotation, this does not imply land held by the three field system, and Professor Gray has shown that the location of any one tenant's holdings strongly disproves such an idea.² An additional bit of evidence along this line which helps to establish the point of Professors Slater and Gray, that agricultural practice in East Anglia was not concerned with three fields and fallow, is found in the sixteenth century work of Thomas Tusser who was an East Anglian and, for a time, a resident of West Dereham and Norwich. In the following stanza the infields and ollands appear.

"Exceptions take of the champion (open land)
From lying along, from that at they hand,
Just by ye may comfort with compas (fertilizer) at will
Far off ye must compost with favor and skill."³

The significance of these lines might easily escape the attention of the reader, but David Hillman in re-editing Tusser under the title Tusser Redivivus in 1710, draws attention to them, and comments thus: "Here he advises to be careful near home of the enclosed land, that it be not quite worn out of heart, but in time summer fallowed and mucked, but not for common-field land, and what lies remote, he looks upon it as no great matter how

¹Slater, p. 178. Ollands in Norfolk are also described in Holkham Deeds, 2nd series, 231, cited by Gray, p. 319.

²Gray, pp. 325 and 323.

³Tusser, Five Hundred Pointes of Good Husbandry (London 1573), under October. Pages are not numbered.

near it be worn".¹ In brief, Norfolk was fortunate in never having been caught in the rigid three field system developed in the Midlands, but was able early to enclose and to experiment with flexible crop rotations.

The influence of the Continent, especially the Low Countries, was important in establishing Norfolk's priority. But as in all matters involving the transfer of ideas, it is hard to prove this point conclusively. The location of Norfolk made it easy of access to Flemish and Dutch settlers from earliest times. In turning through the pages of Blomefield's eleven volume geneological and topographical history of the county,² one sees such place names as the following: Diss, Eye, Hoe, Fense, Tits-hall, Wigen, Grimshoe, Quidenham, Scole, Clackelose, Forehoe, and Costesseye; and such family names as Eke, Shelfhanger, Bygod, Blevcrhasset, Gissing, Dykele, Coote, Bosco, Cat, Quarles, Clarebote, Booton, Bryminge, Goose, Goddarte, Herden, Halgman, Jansy, Ganson, Kearsaye, Leveriche, Neech, Pottelbergh, Moon, Mychelles, Rhooce, Twicke, Van Dijnsye, Van Bouven, Volder, Van Esham, Vramboute, Van Dorte, Vanbrughe, Wawres, Wodehouse, Waolls, and Ymme. Many of these families had come over in the fourteenth century and established themselves at Norwich as weavers of worsteds. Blomefield, in his account of that city, writes concerning the year 1336, "Their [worsted] introduction here was

¹Tusser Redivivus (London, 1710), under October. Pages not numbered. Ernle, p. 91, gives David Hillman as the 1710 editor, although the British Museum Catalogue and Gonner p. 31 list it as anonymous. It is interesting to note that the eighteenth century "reviver" believed that Tusser wrote in 1590 instead of 1573. See his comment under March. He also is identified with Norfolk.

²Blomefield, An Essay Towards a Topographical History of the County of Norfolk, Eleven volumes. (Fersfield, 1739). A second edition appeared in London in 1807, which is the one used for this paper.

owing to the great intercourse between the English and the Netherlands, --- And indeed it seems a great many Flemings settled in these parts at first as at Wursted, Norwich, Lavenham, Sudbury, and they landing chiefly at Yarmouth and the adjacent coasts."¹ In 1565 under the patronage of Elizabeth more Dutch and Walloons were settled at Norwich to revive the woolen industry.² At Norwich in 1572, the proportion of natives to aliens, of whom most were Dutch and Walloons, was five to two.³ That not all Dutch influence was in the direction of textiles is evidenced by a document called Advantages received by Norwich From the Strangers c. 1575: "Item, they digge and delve a grete quantite of ground for rootes which is a grete succor and sustenance for the pore."⁴ More will be said of these "rootes".

Yarmouth men were indebted to the Dutch for ideas about the curing of herring and the value of cleanliness in the process. A traveller from the Continent to Yarmouth in 1714 writes, "I could hardly think myself out of Holland here, there were such an infinite number of fishingboats in the harbor, and so many hands at work in curing of their herring".⁵ The people of Yarmouth carried their herrings to be cured into white herring to Holland and the Dutch brought their herrings to Yarmouth to be made red herring.⁶ Throughout the eighteenth century "Dutch Sunday", just

¹Blomefield, vol. 3, pp. 83 and 84.

²Ibid., p. 283.

³W. Hudson and J. C. Tingey, The Records of the City of Norwich, 2 volumes (London, 1906), vol. 2, p. LXXXIV.

⁴S.P.D. Eliz., vol. XX, No. 49, published in R.H. Tawney and E. Power, Tudor Economic Documents, 3 volumes (London, 1924), vol. 1, p. 315.

⁵J.A. Macky, A Journey Through England, 3 volumes, (London, 1714), vol. 1, p. 2.

⁶Historical Manuscripts Commission Report on the Manuscripts of His Grace the Duke of Portland K. G. Preserved at Welbeck Abbey, vol. 6, p. 153, date September, 1732.

preceding September 21, was observed at Yarmouth when great numbers of Dutch fishing boats came over to assist at the ceremony of "wetting the nets" of the local herring fleet.¹ A Dutch engineer, Joas Johnson, planned the Yarmouth harbor,² and the Custom House at Lynn is pointed out as a good example of Dutch architecture. Another Dutchman by the name of Freestone reclaimed the marshland near Wells in Norfolk,³ and it was the great Dutch engineer, Cornelius Vermyden, who drained the Fen district, and settled his laborers on lands which he received in payment. Parts of this district and indeed all the Norfolk Broads resembled Holland, being flat lands drained by canals, the water of which was kept moving by means of great windmills.

A more tangible way to trace Dutch or Low Country influence in Norfolk agriculture, is through the agricultural pamphlets. Sir Richard Weston returned from an extended sojourn in Flanders, and published his Discourse of Husbandrie used in Brabant and Flanders, showing the wonderful improvement of land there; and serving as a pattern for our practice in this commonwealth, in 1650.⁴ In this pamphlet, which has the earmarks of a genuine travel document, he advocated the culture of lucerne and clover as he had seen them in the Low Countries. He had done much, he wrote to improve his own land in England, but "after I had been a while in Brabant and Flanders, I found I was to learn a new lesson, in point of husbandrie; for that the barrenest,

¹W. A. Dutt, Highways and Byways of East Anglia, (London, 1901), p. 82.

²S. Smiles, Lives of Engineers, Vermyden, Myddeton, Perry, James Brindley. (London, 1904 ed.) p. 20.

³Ibid., p. vi of introduction.

⁴This is the pamphlet often attributed to Samuel Hartlib. It should be noted that there are two Richard Westons, both agricultural writers. This Richard Weston dates from 1591 to 1652, the other Richard Weston from 1733 to 1806.

heathie and sandie lands in those countries did produce richer commodities by an ordinarie waie of husbandrie there in practice than the stronest and richest grounds that were in both those countries."¹ He had travelled between "Bridges" and "Gaunt" and thence to Antwerp through country which he thought produced only heath or broom, and then found to his astonishment that this land was the most productive in all Flanders, which experience reminds one of travellers in the western part of the United States, who usually fail as completely as did Weston to recognize the value of this same type of sandy alfalfa (lucerne) producing land, and judge the productivity of a district by its garden-like aspect. Weston² advised English farmers to hire Flemish farm hands.

The above-named pamphleteer was not a Norfolk farmer, but his Discourse seems pertinent as establishing the point of Flemish influence, for it was largely copied by "a person of honour in the county of Norfolk", Roger North, who seems to have written his The Gentleman Farmer; or certain observations made by an English gentleman upon the husbandry of Flanders; and the same compared with that of England, largely from Sir Richard Weston's work.³ The prolific writer Samuel Hartlib had also lived in the Low Countries.

In addition to ideas, the English borrowed tools and plants. The Norfolk plow as early as 1652 was said to have been borrowed from the Dutch.⁴ Many new plants were introduced during

¹R. Weston, Discourse, p. 2.

²Discourse of Husbandrie, p. 25.

³Neither the Dictionary of National Biography nor the British Museum Catalogue assigns this to North, but Mary S. Aslin, Catalogue of the Printed Books on Agriculture from 1471 to 1840 (London, 1926), points out that the above quoted description from the title page fits Roger North. The pamphlet was published in 1726.

⁴Walter Blith, The English Improver Improved (1652) p. 192. See p. 125 of this study.

the seventeenth century from the continent. It is not within the scope of this paper to go into the knotty problem of just where each of the "artificial grasses" had its origin. The information available from the pamphlet literature will be given later when the place of these new plants in Norfolk husbandry is considered. That they were always associated with the continent is clear. Nourse in 1720 complained that the cultivation of clover, sainfoin, raygrass and "other foreign weeds" ought to be prohibited.¹ All during the eighteenth century, contact with the continent was close. During the reign of George I the famous "Turnip" Townshend went with the king to Hanover and returned to popularize the turnip.² Later in the century William Marshall, Nathaniel Kent, and Thomas William Coke travelled in Flanders. While it is probable that Dutch influence was no stronger in Norfolk than in Suffolk, this influence, combined with other factors, resulted in Norfolk's early leadership in agriculture.

Another reason for Norfolk's priority lies in the fact, already emphasized, that the agricultural revolution was caused by the effort to produce a surplus for sale. This involves the question of an available market, in which respect Norfolk was especially fortunate. Its market consisted of the home area, the London metropolis, and foreign lands. The development of these three markets will be described in some detail.

Norfolk to some extent created its own market, for its population was estimated to have been 210,200 in 1700; 215,100 in 1750; and 282,400 in 1801. This ranks the county as fourth in

¹T. Nourse Campania Foelix (London, 1700) p. 86.

²Annals of Agriculture, vol. 22, p. 24, Nathaniel Kent, "On Norfolk Turnips and Fallowing".

population in 1700 and sixth in 1750 and 1801.¹ At the last mentioned date the number of acres per inhabitant was not quite five which is a fairly dense population for an agricultural community.² But Norfolk had an industrialized area of its own around Norwich, which, as early as the fourteenth century, had been a famous textile center. In 1640 it was the third city in England in size, being surpassed only by London and Bristol. The Gentleman's Magazine³ reported a careful parochial list made in 1752 which gave the number of houses as 7,139 and the number of souls as 36,139. The best modern estimate is as follows:⁴

1579	about	17,500	
1601		15,000	
1693		28,911	
1752		36,369	(Compare with 36,139 given above)
1786		40,061	
1801		36,832	- Official census.

Although these figures show that Norwich itself was never large in the modern sense, from the point of view of the eighteenth century there was certainly a concentration of population in and about the city. Defoe, writing in 1722, used the adjectives large, rich and populous to describe it and spoke of its three mile circumference making it larger than the "City" of London. What is even more significant, he described an industrialized

¹Annals, vol. 42, pp. 267 and 268, "Observations on the Results of the Population Act". The figures for 1700 and 1750 were reached by comparing the baptisms for 1801 with the population actually enumerated by the census of that year, and then estimating the population of the two earlier periods from their baptism records. The figures for all the counties are given in Appendix I of this study.

²Annals, vol. 36, p. 74.

³Vol. 22, p. 347.

⁴Hudson and Tingey: Records of the City, vol. 2, p. cxxxviii.

area, a "throng of villages" around Norwich and a dense population in all the eastern part of the county with its many market towns.¹ In 1771, Arthur Young wrote that seventy-two thousand workers were employed at twelve thousand looms in Norwich and vicinity. Mantoux does not discount this statement, but points out that although Norwich itself could never have exceeded forty thousand, there undoubtedly was a concentration of population in and around the city.² Marshall in 1787 vividly described the scene in the Norwich market to which the wives, daughters, and servants of the farmers brought veal, pork, lamb, and mutton in panniers, known colloquially as "peds". These loaded panniers were carried either on horseback or in market carts, which most farmers owned, and arranged in the "ped" market, which is reported to have been a model of neatness.³

Other indications of a considerable density of population are the thirty-six churches and four meeting houses at Norwich.⁴ Six bridges over the Wensum show the volume of traffic.⁵ Parson Woodforde's Diary conveys to us something of the atmosphere of the place and indicates its prosperity. He enthusiastically exclaimed in 1775 that it was the finest city in England.⁶ Under various dates of this Diary in September 1778 we find also that Mrs. Siddons played in Norwich for seven nights; that Handel's

¹Daniel Defoe, A Tour Through the Whole Island of Britain (1st ed., 1724), vol. 1, pp. 63, 93 and 108. All references in this study are to the first edition unless otherwise noted.

²A. Young, A Farmer's Tour Through the East of England, 4 volumes. (London, 1771), vol. 2, p. 79. P. Mantoux, The Industrial Revolution in the Eighteenth Century, (rev. ed., N.Y., 1927), p. 54.

³William Marshall, The Rural Economy of Norfolk, (London, 1783), 2 volumes, vol. 1, p. 195.

⁴Blomefield, vol. 4, p. 579.

⁵Defoe, Tour, vol. 1, p. 55, 1742 edition.

⁶James Woodforde, The Diary of a Country Parson 1758 to 1802, Edited by John Beresford. (London, 1924-31). In 5 volumes. Vol. 1, p. 151. April 14, 1775.

oratorio, Judas Maccabeus, was sung at St. Peter's Church to an audience of twelve hundred people; that at a symphony concert this same month with an orchestra composed of nearly one hundred musicians there were nine hundred eleven in the audience, although the tickets were seven shillings six pence. The Parson described vividly how, because of a traffic jam, he and his party were obliged to wait a full hour after the performance for their hackney coach to reach them. Such a city must necessarily have furnished an important market for food commodities for men and horses.

But Norwich was not the only Norfolk center which was non-agricultural. Yarmouth had expended £38,652 18s. 4d. on its harbor from 1549 to 1613, a very large sum for those days as Francis Blomefield remarked in 1736. The many attempts at building a harbor, the appeals for funds directed to the Crown, the Church, the Corporation of Norwich and private individuals, and the final successful accomplishment of a really difficult engineering feat by Joyse or Joas Johnson, a Dutchman, are all related in detail by Blomefield,¹ and remind the reader of the present activities of Chambers of Commerce. Yarmouth prospered, for in 1759 she could expend "near £2,000 on sea-baths",² and by 1769 was exporting more corn and malt per annum than any other port in England, London not excepted.³ It is easy to underestimate the importance of a town of sixteen thousand and fail to picture the bustle of activity which must have gone on there. In 1724, Defoe⁴ described the Yarmouth quay as the longest and largest for handling goods in England, if not in Europe. The second Earl of Oxford⁵

¹Blomefield, op. cit. vol. 11, p. 270, ff.

²Ibid., p. 399.

³Defoe, Tour, vol. 1, p. 64, 1769 edition.

⁴Tour, vol. 2, p. 65.

⁵Historical MSS. Commission Portland Papers, vol. 6, p.154.

in 1732 made it one of the high points in his travels. From this quay was carried on an extensive trade with Holland in exporting woollen goods. Yarmouth traded with Norway and the Baltic for deals, fir timber, oak planks, baulks, spars, oars, pitch, tar, hemp, flax, spruce, canvas, and sail cloth.¹ In addition, it built a good many ships.

But the great industry of Yarmouth centered about fishing, both for the North Sea cod and the good red herring. Forty thousand barrels of these herrings had been cured at Yarmouth in a single season. These were exported to Genoa, Leghorn, Naples, Messina, Venice, Spain and Portugal along with worsted and silk-and-worsted made in and around Norwich.² The Earl of Oxford spoke of the neatness and elegance of the buildings of Yarmouth, attributing the general cleanliness of the city to its trade with the cleanly Dutch, but admitted that when herrings were being cured, the town could be extremely offensive. This fishing population estimated at 6,000³ had to be fed, and the ships supplied with food.

The other port, Lynn, with a population somewhat smaller than Yarmouth, exported agricultural produce in 1793 to the value of £262,650 8s.⁴ It was at the outlet of the greatest extent of inland navigation of any port in England with the exception of London. It imported more coal than any ports except London and Bristol, according to Defoe, writing in 1724.⁵

In addition to what might be termed the local market, Nor-

¹Defoe, *Tour*, vol. 1, p. 67.

²*Ibid.*, p. 54.

³*Annals*, vol. 22, pp. 35, 40 and 41, Nathaniel Kent, "Exported produce of Norfolk".

⁴*Ibid.*, p. 38. Article cited.

⁵*Tour*, vol. 1, p. 73.

folk had the opportunity to trade with London, for it was well situated to be drawn into the metropolitan area. From about 1514 to 1660 London was much concerned with establishing an adequate grain supply. Buyers were sent out with ample capital, and warehouses for grain were built. Professor Gras has compiled a table showing the amount of corn shipped coastwise from Lynn, 1549 to 1688, with the percentage sent to the London market, which adequately illustrates the growth of the London trade:

	Annual Average no. of shipments	An. av. no. of shipments to London	An. av. amt. of corn in Quarters	An. av. amt. to London Quarters	Per cent shipped to London
1549-69	158.1	12.7	25,594.3	1,474.9	5.9
1576-1633	113.4	32.6	14,512.5	5,774.3	39.8
1663-1689	230.1	48.8	23,742.1	11,656	49.1 ¹

In addition to the London trade carried on by water, there was a considerable trade overland. "Parcel post" communications with London in 1729 is illustrated from the following advertisement. "The London Wagon now goes out every Thursday night from the Angel in the Market-place in Norwich and gets to the Blossoms Inn in Lawrence Lane, Cheapside, London, the Tuesday morning following; and sets out from London every Wednesday and comes to the Angel in Norwich as above every Monday; and takes in all sorts of goods and parcels at a reasonable price. Performed if God permit." etc.² At the opening of the century, the roads were bad enough to give point to the last phrase, the highways being under parish control according to the old act of Philip and Mary. The most important road was the one which connected Nor-

¹Corn Market, p. 108.

²Norwich Mercury, March 29, 1729.

wich with London. It had been built by the Romans and is the Venta Icenorum of the great Antonine Itinerary.¹ The length of this road which ran from Whitechapel Church in London to Norwich, by way of Chelmsford, Colchester, and Ipswich was one hundred eleven and one-half miles. The most direct road was by way of Thetford, but the longer Roman road remained the post road through the eighteenth century, for the Thetford road led over the Newmarket Downs, a wild country where robbery was much feared. Wyndham and Attleborough had turnpike roads by Acts 7 and 8, William III c. 26, (1695), which were renewed in 1708, 1729, and 1746.² Both these towns are on the famous old Roman road. Another turnpike act in 1770 was passed for Norwich and Block Hill.³ However, Marshall,⁴ writing in 1787 of east Norfolk exclaimed, "Not a foot of turnpike road in the district, excepting the road between Norwich and Yarmouth".

The first stage wagon service established in 1729 has already been mentioned. The first regular coaching service between Norwich and London was established in 1762, and the first mail coach to supersede the post riders, in 1785.⁵ In 1775 Parson Woodforde wrote that the road between these two cities was the best he had ever traversed, and although he was not as traveled as Young or Defoe, he made frequent trips to Bath and Bristol and should have been a good judge. Certainly the road allowed fast travel, for Woodforde made the journey from Norwich to London in one day, leaving at six in the evening, and arriving

¹C.G. Harper: The Norwich Road, (London, 1901), p. 3.

²S. and B. Webb, King's Highway, p. 147.

³Ibid., p. 149.

⁴Norfolk, vol. 1, p. 4.

⁵Harper, op. cit. p. 29.

at eleven in the morning.¹ However, the road still had its hazards, for in the very year (1775) that the Parson recorded several pleasant journies, the Gentleman's Magazine reported the robbing of the Norwich Stage, resulting in the death of four men including the armed guard,² and this on the county's most frequented road.

The less important roads were probably saved from being impassable by the nature of the soil itself, since the flat sandy area would not be as difficult to traverse as the clay counties. At the end of the century Kent reported, "The roads in this County afford the farmer a very great advantage over many other parts of England, being free from sloughs in all parts (except the marshes) and though the soil is sandy, it resists the pressure of the wheels at a small distance from the surface, and the ruts are kept shallow at a very little expense; and after the longest and hardest rain, become dry and pleasant in a few days which is not only an agreeable circumstance to a traveller, but a great comfort to cattle in their drift; so that I may venture to say that the roads are better in their natural state than in almost any other county; so good that no turnpike was thought of in Norfolk, till they became common in most other parts. ... In short, the roads though often called bad by Norfolk men are so good, comparatively with those in other countries, that where the common statute duty is fairly done, a traveller may cross the county in any direction, in a post chaise without danger, and where the duty is not done, may trot his horse from one parish to another

¹Woodforde, Diary, vol. 3, (September 25, 1788), p. 49.

²Gentleman's Magazine, vol. 45, (1775), p. 603.

at the rate of six miles an hour".¹

All during the century livestock was driven to London over these roads. In 1724, Defoe described the droves of turkeys which walked to London on foot. Even the geese were made to walk from various points in Norfolk to London. These drives began in August and lasted until October when the mud became too deep for the short legs of the geese.² In 1742 Defoe described a new kind of carriage "late invented" for hurrying the poultry to the London market. These carriages had four stories or compartments for the birds, "and for the smoother going, they drive with two horses abreast, like a coach; thus quartering the road for the ease of the poultry, and changing horses, they travel night and day; so that they bring the fowls, seventy, eighty or one hundred miles in two days and one night: The horses are fastened together by a piece of wood lying cross-wise upon their necks, by which they are kept even and together; and the driver sits on the top of the cart, as in the publick carriages for the army."³ Herds of cattle were driven to the famous Smithfield Market twice a week, amounting toward the end of the century to twenty thousand cattle and thirty thousand sheep per annum.⁴

Thus, Norfolk had access to the London market both by water and by fairly good roads. But in addition to its local market and London trade, it had had from earliest times access to the export market through its excellent harbors at Yarmouth and Lynn. The latter port had sent out corn from the twelfth century. Professor Gras gives the following data for the year 1588-89 in re-

¹Nathaniel Kent, Agricultural Survey of Norfolk, (London, 1796 edition), p. 16.

²Defoe, Tour, vol. 1, p. 59.

³Ibid, (1742 edition), vol. 1, p. 49.

⁴Ernie, p. 194.

gard to destination of corn from Lynn.¹

Enkhuisen	35 shipments	Bergen (Neth)	3 shipments
Amsterdam	19 "	Dordrecht	2 "
Rotterdam	10 "	Kirkcaldy	2 "
Brille	5 "	Middleborough	1 shipment
Flushing	4 "	Haarlem	1 "

The following table shows that from 1660 on the Norfolk ports were more important exporting centers than London.

Corn Exports 1662 - 1672 (in quarters).²

Year	Lynn	Yarmouth	London
1660-61		2,072	
1662-63		2,881	2,506
1663-64	429		
1665-66	320		
1668-69			1,448
1669-70	1,048		
1671-72	3,618		(Figure for 1,312 aliens alone, for this year at London)

It is perhaps unnecessary to give further data at this point on Norfolk's export market, except to say that by the end of the eighteenth century (1794) its total grain exports, domestic and foreign, amounted to £1,000,000,³ and Norfolk was exporting more grain than all the rest of England combined. However the most important market due to England's growing population was the home market.

It has been noted that one need of seventeenth century agriculture was leadership. Norfolk in the eighteenth century was especially fortunate in respect to certain great landlords who helped supply this need. The best known of these were

¹Gras, Corn Market, p. 113.

²Adapted from Gras, Corn Market, p. 113.

³Annals, vol. 22, pp. 35, 40, 41, Nathaniel Kent, "Exported Produce of Norfolk."

Charles Viscount Townshend, nicknamed Turnip Townshend, and Thomas William Coke, Earl of Leicester. The interest of the Townshend family in agriculture antedates the famous Charles just referred to, for a long series of shepherd's accounts of his estate show the early date of some of the enclosures for sheep farming and describe huge flocks some containing as many as twenty-four thousand animals.¹ Moreover, the Estate Books at his country seat of Raynham show that as early as 1661 marl was being extensively used and enclosures were being made for arable. Charles, Viscount Townshend (Turnip Townshend) came into his estate in 1684 at the age of ten. He did not devote his entire attention to agriculture until 1733 after his famous quarrel with Walpole, but in 1706 the Estate Books show the extensive cultivation of turnips, the planting of clover and sainfoin, the purchase of Scotch heifers, and a careful attention to dairy farming, all of which were to characterize the farming of western Norfolk.² In 1732 the second Earl of Oxford visited Raynham and reported a conversation with Lord Townshend to the effect that he had improved his paternal estate, increasing its income by nine hundred pounds a year,³ and was then planning to enclose the whole estate, for he attributed his success, first of all to enclosure, but second to marling, and third to turnip cultivation.

The real hero of Norfolk agriculture was Thomas William Coke, 1754 to 1842, the first commoner raised to the peerage by

¹Norfolk and Norwich Archaeological Society for the Encouragement and Prosecution of Research into the Early Acts and Monuments of the County of Norfolk, vol. 10, p. 155, article by W. A. Day, "Glimpses at Country Life in the 16th Century."

²Norfolk and Norwich Archaeology, vol. 19, pp. 39, 41, 43, article by H. W. Saunders, "Estate Management at Raynham in the years 1661 to 1686, and 1706." This article is based on nine reports to Horatio Townshend, 1661-86, and eighteen for the year 1706.

³Historical MSS. Commission Portland MSS. (1732), vol. 6, p. 159.

Queen Victoria in 1837. She revived for him the title of Earl of Leicester. He inherited his forty-three thousand acre estate at Holkham in 1776 at the age of twenty-two and spent a long and busy life in experimental but highly successful farming on land so poor that his critics made fun of the idea of his taking agriculture seriously. One critic is said to have remarked that the thin sandy soil must be plowed by rabbits yoked to a pocket knife.¹ Mrs. Stirling literally makes two blades of grass grow where one had grown before by asserting that in 1776, ten thousand quarters of wheat were imported into the Holkham district, while in 1818 eleven thousand quarters were exported. The population of the parish grew from two hundred in 1776 to eleven hundred in 1818, and the income of this estate from two thousand two hundred pounds per annum to twenty thousand pounds.²

Coke of Holkham's famous annual sheep shearings began in 1778, and were continued until 1821. In this period they grew from mere conferences between himself, an inexperienced young farmer, and his tenants, into the most important meeting of agriculturists in the kingdom, at which as many as six hundred guests were entertained. Prominent travellers from America, and members of the nobility from the German states, the Italian states, Russia, and Spain strolled or rode horseback over Coke's magnificent estate, three thousand acres of which were farmed as a unit. The Annals of Agriculture, spread far and wide enthusiastic accounts of these meetings and, indeed, their importance as a means

¹A.M.W. Stirling, Coke of Norfolk and his Friends, 2 vols. (London, 1908, 2nd edition 1912), vol. 1, p. 218.

²Ibid., vol. 1, p. 301. See criticism of this statement on pp. 85 and 107 of this study. As a matter of interest, it might be added that in 1883 the estate consisted of 44,090 acres worth £59,578 (Journal of the Royal Agricultural Society [1895] vol. 56, p. 7.)

of disseminating agricultural information can hardly be over-estimated. Here were placed on view the best breeds of sheep and oxen, the best kinds of seeds to be used in laying down meadows, and new types of agricultural machinery; while all around were fields which had been planted by this method, or by that, and which furnished a practical demonstration of the most efficient methods.

Coke was an influential public man, a member of the House of Commons for over half a century. He had been offered a peerage seven times under six different prime ministers.¹ He was a Whig, a loyal follower of Fox and Windham, and an original member of the Board of Agriculture. His actual contributions to agriculture will be considered later. Perhaps the highest tribute paid to Coke was by his political enemy, William Cobbett, words which prove that Coke's success was not gained at the expense of his tenants and laborers. Writing in 1822, Cobbett says, "Here at Holt as everywhere else, I hear every creature speak loudly in praise of Mr. Coke. It is well known to my readers that I think nothing of him as a public man ... but it would be base in me not to say that I hear from men of all parties, and sensible men too, expressions made use of towards him that affectionate children use towards the best of parents. I have not met with a single exception."²

To the reasons so far given for Norfolk's eighteenth century fame in agricultural circles, should be added the fact that it was peculiarly fitted to capture the popular interest. With its sandy soil and rather bleak and dreary climate, it could fur-

¹Stirling, vol. 1, p. ix.

²William Cobbett, Rural Rides with Economical and Political Observations (London, 1830), vol. 1, p. 51.

nish a striking demonstration of what the new agriculture could accomplish especially in wheat culture which was very important after 1760. Although the farmers of Kent and Suffolk were probably just as enlightened, the successful culture of hops and turkeys could never command the interest and respectful admiration of the nation. Furthermore even royal favor advertised the Norfolk system. George III, who was among other things a progressive farmer, and a contributor to the Annals under the name of Ralph Robinson,¹ had virtually turned Windsor into an agricultural experiment station with such leaders as Mark Duckett and Nathaniel Kent as farm bailiffs. It is significant that the king named one of the Windsor farms the Flemish Farm, and the other the Norfolk Farm.² So it is not surprising that by the end of the eighteenth century to the public the "Norfolk system" and the new scientific farming were almost synonymous terms. Perhaps Norfolk in its ability to turn sandy wastes into wheat land at just the time when wheat was very vital to the nation, might be compared with California which has profited by being able to make desert country produce fruits at just the time when the public has been educated to eat more fruit.

¹E. g., Annals, vol. 7, pp. 65 and 332.

²A. Hunter, (Editor), Georgical Essays, 6 volumes, (York, 1803), vol. 4, p. 172.

VII

Conclusion

Having surveyed the essential features of Norfolk agriculture in the eighteenth century, the question arises as to what it actually accomplished. First of all, there was what might be termed its actual physical achievement, the production of bushels of wheat and pounds of beef; and second there was its more intangible achievement of furthering the progress of English agriculture. To the contemporary Englishman the first was perhaps the more important. Before 1750 England had been a corn exporting nation; from 1750 to about 1800, indeed through the Napoleonic wars per force, England had largely fed her own people; but during the nineteenth century she was forced to import an ever increasing amount of food. Norfolk was one of the counties which helped to stave off the evil day when England would have to depend on outside countries for her daily bread.

Even in the war year 1793, Kent estimated the amount of grain produced for sale outside the county on the 1830 square miles of Norfolk's sandy soil as worth annually £901,521 9s. He gave the following analysis of his export figures.¹

¹Annals, vol. 22, pp. 35, ff. article by Kent "Exported produce of Norfolk."

Yearly Average of Corn Exported to Foreign Ports
and Coastways for the Last Three Years
(Written 1793)

From Yarmouth

Quarters	Price per Quarter		Amount	
	£	s.	£	s.
Wheat 22,466	2	4	49,425	4
Wheat flour - 30, 578	2	16	85,618	8
Barley - 129,884	1	4	155,860	16
Malt 66,579	2	0	133,158	0
Rye 1,315	1	5	1,643	15
Peas 6,116	1	8	8,562	8
Beans 10,440	1	4	12,528	0
			446,796	11
Neat exports from Yarmouth ¹			440,440	8

From Lynn

Wheat 30,016	2	4	66,035	4
Wheat flour 3,138	2	16	8,786	8
Barley 112,944	1	4	135,532	16
Malt 10,703	2	0	21,406	0
Rye 12,298	1	5	15,372	10
Peas 3,855	1	8	5,397	0
Beans 4,708	1	4	5,649	12
Vetches 73	1	10	109	10
Rape Seed 2,423	1	16,	4,361	8
			262,650	8

4,993 quarters of oats were imported in excess of those exported
so £4,244 ls. was deducted from the total exports.

Therefore, neat exports from Lynn £258,406 7s.²

From Blackeney and Clay

Wheat 6,378	2	4	14,031	12
Wheat flour 785	2	16	2,198	0
Barley 59,176	1	4	71,011	4
Malt 2,525	2	0	5,050	0
Rye 46	1	5	57	10
Peas 1,240	1	8	1,736	0
			94,084	6
Neat exports of Blackeney and Clay			93,774	18

¹Annals, vol. 22, p. 37, an eighth part of the grain from
Yarmouth was deducted to balance what came from Suffolk.

²Ibid., vol. 22, p. 38, Kent, "Exported Produce of Norfolk."

From Wells

		Price per		Amount	
		Quarter			
		£	s.	£	s.
Wheat	4,186	2	4	9,209	4
Wheat flour	2,634	2	16	7,375	4
Barley	58,376	1	4	70,051	4
Malt	10,464	2	0	20,928	0
Rye	397	1	5	496	5
Pease	2,150	1	8	3,010	0
				111,069	17

Neat exports from Wells 108,899 16

The total value of these exports of corn only for the whole county, after deducting for the Suffolk and Midland proportion was thus £901,521 9s.¹

Kent's figures were amended by I. F. Erksine who reconsidered the coastwise trade which he believed Kent had underestimated. His amended estimate follows:

Grain	Quantity Ex- ported from Norfolk in Quarters	Norfolk Prices		Value of the Quarters Exported	
		£	s.	£	s.
Wheat	63,046	44	0	138,701	4 0
Wheat Flour	37,135	56	0	103,978	0 0
Barley	360,380	24	0	432,456	0 0
Malt	90,271	42	0	189,569	2 0
Rye	14,056	25	0	17,570	0 0
Pease	13,361	28	0	18,705	8 0
Beans	15,148	24	0	18,177	12 0
Total	593,397			£919,157	6 0

This does not differ markedly from Kent's total, but it makes an interesting comparison as it was arrived at by different methods.² The degree of care that Kent used in his estimates may be inferred from the fact that he quoted Lord Roseberry's comment

¹Annals, vol. 22, p. 39, Kent "Exported Produce of Norfolk."

²Annals, vol. 40, pp. 453 and 460. I. F. Erskine "Extract From a Letter to Sir John Sinclair on the Prices of Corn".

on the use of the Custom House books to the effect that these were not good sources since the exporters entered at random any quantity they pleased, always making it large enough to prevent the trouble and expense of a second entry, there being no necessity or obligation to have the figures correspond with the exports. The debentures were given on the quantity actually shipped. Kent remarked that he could not presume to say how far this might have affected his calculations.¹

Kent estimated the cattle by the number driven over the toll bridges to Smithfield and other London markets. The productivity of Norfolk in 1793, as regards live stock sent out of the county, appears to be according to Kent, approximately as follows:

5,000 home-bred bullocks	at £10	50,000
13,000 Scotch and Irish cattle		
the fattening profit of		
which may be set at	£5	75,000
30,000 sheep at £1 15s.		52,500
Swine not less than		10,000
Rabbits at least		10,000
Dairy articles about		5,000
Poultry and game		3,000
Wool, conjectured to be about		<u>20,000</u>
		225,500

If to this figure be added that of the value of corn exported (£901,521 9s.) the total evaluation of all exported agricultural produce reaches the figure of £1,127,021 9s.² Kent concluded his analysis by saying that every reader must be struck with astonishment at these figures since Norfolk was not naturally a good agricultural county.

But important as was its very substantial contribution to the feeding of England's rapidly increasing population, the less tangible achievements of the Norfolk agriculturists are per-

¹Kent, Norfolk, p. 152.

²Annals, vol. 22, p. 40, "Exported Produce of Norfolk". Adapted from Kent's table.

haps of more interest, although more difficult to evaluate. It is necessary to try to see the "Norfolk system" in its relation to the whole development of English agriculture. If the present writer may imitate Arthur Young's habit of selecting some one feature of the Norfolk system as all important, that one thing would be crop rotation. The development of the famous "Norfolk course" (crop rotation) marks a very vital step between the old medieval three field system in which fallowing was used to restore soil fertility and the nineteenth century drill cultivation supplemented by the use of artificial fertilizers.

The "Norfolk course" was evolved slowly from the necessities of the time and place. It may be well to recapitulate some of the stages in this evolution. The early unit of villein tenure, the eriang, resulted in rather compact holdings, of which the "infields" were fertilized and made to bear a crop every year and the "ollands" were not fertilized but were used part of the time as fold courses for sheep. This use of land every year made greater flexibility in rotation and a greater variety of crops possible. The poor nature of the soil itself also helped in the development of crop rotation. Some of the land was so sandy that if we are to believe contemporary accounts, to allow it to lie fallow would be to allow it to blow over into the next parish. Fertilizer, not fallowing, was essential, and the expense of marl, the most widely used fertilizer, was so great that to supplement it by fallowing seemed too wasteful. The land had to be "rested" by planting a variety of crops. So Norfolk farmers were most willing to borrow ideas from their neighbors the Dutch with whom the county had close relations owing to the textile and fishing industries. Moreover the Dutch with their reclaimed land had had to solve much the same problems as the far-

mers on the "Norfolk Broads". So Norfolk farmers experimented with Dutch clover, turnips, carrots, and "artificial grasses" and were most anxious to achieve convertible husbandry because the stock not only consumed the crops essential in the rotation scheme, but added to the fertilizer available for the sandy soil. Norfolk was thus the connecting link between the practice of agriculture on the continent and in England.

Furthermore, Norfolk farmers led the way toward capitalistic farming. The county was well placed to profit by being drawn into the metropolitan area of London. Its flat sandy surface made overland transportation easier than in the clay counties and its rivers and harbors made water transportation available. Early enclosure was followed by engrossure, due to the incentive of a profitable market. It was easy to demonstrate to the satisfaction of contemporary observers the efficiency of the large farmers with their adequate capital. Marling which was so essential meant the outlay of considerable money on which the return was not immediate. Moreover in the transition to convertible husbandry, various crops such as lucerne and sainfoin were still in the experimental stage, and it was only the "great farmers" who could afford to experiment.

To contemporaries there was no doubt of the prestige of the Norfolk system and its actual influence among enlightened farmers in other counties was great. Arthur Young described again and again in the Annals and in his various Tours, the husbandry of this county "so famous in the farming world". But many farmers were unprogressive and Arthur Young found plenty of cause to scold. When he was in Dorsetshire in 1771, he visited farmer Cooper who had come there some twenty years earlier from Norfolk "with his head full of turnips and hoes", and who contin-

ued the Norfolk system with great success. But among his neighbors even after twenty years observation of farmer Cooper's superior crops, not one man had imitated him, or would touch his Norfolk plow.¹ The backward counties were exhorted and ridiculed by Young in his most vigorous fashion. The following is interesting in that it names what were in Young's opinion in 1771, the five most enlightened counties. When he was travelling in Northamptonshire he noted the practice of burning manure for fuel and wrote,

"Will ye believe me, ye farmers of Norfolk, Suffolk, Essex, Kent and Hertfordshire, that this is the constant practice not only of the cottagers, but of the farmers themselves. No, you will say, it is impossible, except among the Hottentots."²

The County Surveys carried on the work of measuring the success of each particular county, by Norfolk standards. For instance, William Pearce in his survey of Berkshire wrote that he was persuaded no East Anglian farmer would do so and so, and "strenuously recommended" the Norfolk wheel plow.³ William Marshall wrote in reference to the desolate aspect of Norfolk fields in November,"

"Were a Kentish or any other good wheat farmer who had heard of the superiority of the Norfolk husbandry to ride through east Norfolk . . . he would experience some difficulty in conceiving himself travelling in a county of which fame has so long spoken loudly."⁴

Coke of Holkham helped to spread the fame of the Norfolk system and since it is always easier to identify slow and complicated processes with one individual, the public came to think of Coke of Holkham as the creator of the Norfolk system, rather than

¹Defoe, Tour, vol. 3, pp. 395 and 397.

²Ibid., vol. 1, p. 48.

³William Pearce, General View of the Agriculture in Berkshire (London 1794.)

⁴Marshall, vol. 1, p. 213.

the Norfolk system as the creator of the success of Coke of Holkham. But in a sense, Coke's fame can be used as a measure of the fame of the Norfolk system. Earl Spencer wrote in 1842,

"Everyone connected with agriculture in this country, and probably in Europe and America, has heard of the improvements in the agriculture of west Norfolk, brought about by the exertions, liberality, and example of the Earl of Leicester."¹

But the Earl himself was more modest, for he spoke at his famous sheep-shearings, of the Norfolk, not his own, system.²

As has been shown, Arthur Young, William Marshall, Sir John Sinclair and Nathaniel Kent, had little interest in the new agricultural machinery, and machinery together with the new science of soil chemistry was destined to transform agriculture. Sir Humphrey Davy began his lectures on agricultural chemistry before the Board of Agriculture in 1803. Perhaps the introduction of these two new factors accounts for the failure of later farmers to appreciate the Norfolk system. But a more immediate cause was the depression which all farming suffered at the close of the Napoleonic wars, and the death of those leaders who had known agriculture in its transition period. Arthur Young died in 1820. Thomas William Coke discontinued his famous sheep-shearings in 1821, and in 1822 the Board of Agriculture itself was dissolved and no one spoke of farming except to grumble.

The corn growing sections such as Norfolk were particularly affected. Cobbett gave a vivid picture of the county in 1830. The play house at Norwich, at which Parson Woodford had seen Mrs. Siddons and heard Handel's oratorios, had now

¹Journal of the Royal Agricultural Society, vol. 3, (1842) p. 1. article by Earl Spencer "On the Improvements Which Have Taken Place in West Norfolk."

²Rigby, Agriculture of Holkham, published in Pamphleteer vol. 13, (1818), p. 497.

"been shut up a long time. . . . At Yarmouth there were four hundred persons, generally young men, labourers, carpenters, wheel-wrights, mill-wrights, smiths and bricklayers; most of them with some money and some farmers and others with good round sums. These people were going to Quebec in timber ships, and from Quebec by land into the United States. . . . At Hull. . . . the emigration is going on in the 'old Roman plan.' Ten large ships have gone this spring, laden with these fugitives from the fangs of taxation; some bound direct to the ports of the United States; others like those at Yarmouth for Quebec. . . . There are about fifteen ships going from this one port this spring."¹

Prosperity returned slowly in the decade of the 1830's, helped on, no doubt, by the new Poor Law of 1834 which reduced rates and by the Tithe Commutation Act of 1836. The Board of Agriculture was revived in 1838 under the name of the Royal Agricultural Society and carried on the old traditions by awarding a prize to R. N. Bacon in 1844 for his essay on Norfolk agriculture. But the world of 1844 was very different from the world of the eighteenth century. England was becoming industrialized, and agriculture was of little interest compared with the days when Walpole, Lord Townshend, the Duke of Bedford and George III exchanged notes about their farms. The "Norfolk system" and Arthur Young were forgotten. Lord Ernle has called attention to the fact that in the agricultural literature of the nineteenth century, Young is almost ignored, and the Encyclopedia Britannica gives only a few lines to his career.² But capitalistic farming remained in England as a testimony of Young's work and farmers planted clover, rotated their crops, and practiced convertible husbandry whether or not they had ever heard of the "Norfolk system".

In one sense, Norfolk contributed to its own downfall, for with its poor soil and climate it developed a technique which

¹Cobbett, Rural Rides, vol. 2, pp. 255 and 257.

²Ernle, op. cit. p. 206.

when applied in more favored regions resulted in a competition which Norfolk was unable to meet. It built up its agriculture on the production of wheat and meat and was of course especially affected by the competition which developed in the late 1870's with Argentine, Canadian and American wheat, and Australian beef, mutton and wool. Modern Norfolk farmers believe that the future of the county will be found in the development of dairy herds fed on lucerne; by the cultivation of small fruits peculiar to England, such as gooseberries and currants produced for the canning industry; and by barley, the century old standby. Many Norfolk farmers say with pride, "On this soil, we can grow the best barley in the world."

